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EXAMINER

MILLER, EDWARD A

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,155

Applicant(s)

NESVEDA ET AL.

Examiner

Edward A. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,7 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,7 and 11-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-3,5,7 and 11-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Newly submitted claims 19-22 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: These claims are directed to devices which are distinct from the original composition as follows.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 19-22 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

3. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect Group I, to which the claims must be restricted.

- I. Claims 1-3, 5, 7, 11-18, drawn to compositions, classified in class 149, subclass 37.
- II. Claims 19-20, drawn to primer caps, classified in class 102, subclass 205.
- III. Claims 21-22, drawn to cartridges, classified in class 102, subclass 430.

4. The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: There is no special technical feature in accordance with the requirements of PCT Rule 13.2, e.g., that forms a departure from the prior art. See MPEP 1850.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any

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amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. Claims 1-3, 5, 7 and 11-18 are rejected under 35 U.S.C. 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.

The claims, although improved, remain generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical, idiomatic and patent law errors. Complete revision of the claims to be in accord with US practice is again required. Note the following exemplary deficiencies.

It is not clear what applicants intend by their broad category language. What is a “high explosive”? The broad genus’s of nitroesters and nitramines both include liquid compounds, solid compounds, and also high polymers with such functional groups. There is no limitation on the amount of the -ONO_2 or $\text{N-(NO}_2\text{)}$ moiety content, which literally could include one nitrate group, for example, on a polymer of MW 20,000. Is this intended? What explosive content does “high explosive” require? It appears that the broad term and the details within are not consistent, or this is not clear. In such a way, the metes and bounds of the claims cannot be determined. What is meant by this language? Similar observations relate to “derivatives of tetrazole”. In the first instance, “senzibilizer” (sic) remains an improper translation for something that is not understood, either as to the limits thereof, or the intent thereof. Tetrazene is a linear high nitrogen compound that has been used in explosive compositions, but this is clearly distinct from the almost unlimited number of compounds that are derivatives of the organic heterocycle tetrazole which may be substituted and reacted in numerous ways. Such tetrazole compounds are generally unlike tetrazene in their

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character. Nitrocellulose is a high explosive in claim 2, but in (for example) claims 5, 12-13, and 17, nitrocellulose is a binder. Thus, the same compounds may evidently exist in several categories at the same time. Said another way, if one compound may be present as more than one thing, then surely others may also be similarly used. This renders the amounts for the stated categories indefinite. In short, the metes and bounds of the claims cannot be discerned. Do applicants intend that claims 13-14 and 17-18 be drawn to intermediate compositions containing acetone? What is meant by "diammo" in claim 1? Again, these are merely representative, complete revision is again required.

Applicants' arguments are not persuasive. To the extent that they indicate that applicants knew what they intended, this is irrelevant to the statutory requirement that the claims particularly point out and distinctly claim the invention. It is not what the applicants know in their minds, it is what one of ordinary skill is able to determine from the claims. Similarly, the changes are vast indeed, not drawn to mere formal matters of style. Indeed, there are, from Stadler et al. '939, primer compositions which exist as separate, unique parts of a whole primer device. Thus, to allege that the system aspects were nothing but a matter of style lacks factual basis in view of the prior art. Indeed, the language of the cited Kunin memo makes it perfectly clear that rejection was not only proper, but also necessary, as then, and now, the metes and bounds of the claims are not clear. Even though improved to remove a number of the previous problems, the claims remain deficient. Applicants' remarks to the contrary, the "system" aspects are not method, but instead are device or apparatus type limitations. The steps of applying, etc., in previous claims 6 and 9, were where the claims included methods steps such as "nitrocellulose is applied in an organic solvent". Method steps are distinct from product-by-process limitations, which are proper.

7. Claims 1-3, 5, 7 and 11-18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to

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one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

See the rejection above in paragraph 2. It is not clear that the specification describes the invention adequately to support the claims. No new matter may be added to correct deficiencies. It does not appear that the broad terms of the claims, including the oxidizers, are adequately disclosed to enable practice of the invention without undue experimentation. Applicants' arguments in this regard, are without merit. The invention is enabled and described to a small extent. However, both are lacking in the large context. Applicants did appreciate the nature of the rejection as to cite *Wands* (below). However, this is not persuasive. See MPEP 2164.01:

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Accordingly, even though the statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988). See also, *United States v. Teletronics Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988) ("The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.").

One looks to the *Wands* factors, as follows:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

This is apparent to anyone of ordinary skill in the art. The disclosure and claims are very broad.

Further, in this area, the need for detail, e.g., unpredictability, is great. Said another way, the results obtained are critically dependent on these details. In the case of ammunition, the instant art area, if

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a primer does not go off when needed, “our” soldier may be killed by the “enemy” soldier. In a hunting context, the hunter does not have the bear for dinner, the bear eats the hunter for dinner. In the alternative, imagine a person with a quantity of ammunition, which goes off spontaneously, not intended, and also causing damage, injury or loss of life. It does not require genius to know the criticality of compositions in this area; it takes genius to come up with good solutions. These are matters of life and death, as to criticality and unpredictability. In the instant case, there are only a limited range of specification examples, and most of the same general type. These do not relate to the great breadth of the claims, but only to a small subset thereof. All the specification examples contain only tetrazene, and the amounts are all between 25-35%, nothing as low as 5%. There are no examples of tetrazole derivatives or salts thereof. All the examples include explosives of tetryl, penthrite (PETN) or “hexogene” (RDX). All the amounts are also generally in similar amounts, 15-25%, except for the last example, with only 7.5%. HMX and RDX are recognized as generally similar, but there are no examples with nitrocellulose or hexanitromannite, which are distinct, nor are there any other examples of the multitudes of nitrate ester compounds or nitramines. There is no hint of what other types of such compounds would require, as to amounts, or even the possibility of whether they even work. All the examples with nitrocellulose, include fractional % amounts, e.g., binder amounts (last line of claim 1) as opposed to explosive amounts (claim 1, lines 4-5). Although the different oxidizing agents is improved, there is insufficient support for the broad range of amounts, from 5-50%. Such is apparent to any registered practitioner of ordinary skill, applicants’ representative instantly understood *Wands*, and the clear meaning of “undue experimentation.” For applicants to at the same time argue that the original “oxidizing agent” was sufficient does not demonstrate the level of ordinary skill expected in this critically important, unpredictable art, especially primers/initiators. Applicants’ own specification, in the background art area, points to the

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number of problems with finding suitable ignition compositions that avoid the problems of the prior art. This unpredictability was well known to applicants.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3, 5, 7 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mei et al. '252, in view of Erickson et al. and Mei et al. '736.

Mei et al. '252 teach the basic invention in col. 3, lines 8-22 and 38-43, of a nontoxic primer mix of about 10% boron, 10% tetrazene, 20% of, e.g., PETN or nitrocellulose, and 5-40%, e.g., 27% of iron oxide. Although a friction agent is not expressly taught as such, boron has a certain amount of this property, and thus this is deemed to meet the claim requirement. See col. 2, lines 35-42, as to boron and sensitivity, and that it would be obvious to add ground glass is needed, as for instant claim 7. As to this, see Erickson et al., col. 3, lines 55-56, where boron is a frictionator. Further, the overlap of nitrocellulose as fuel and binder suggests that one ingredient may provide several functions. Erickson et al. and Mei et al. '736 further suggest that the ingredients and amounts may be varied to some extent, as suggested therein. As to claim 5, 12-14, 17 and 18, the bonding agent is optional, and for this rejection the examiner construes the claims in their broadest reasonable construction, omission thereof. Thus, these claims do not define over the prior art. To the extent appropriate, variation of specific well known ingredients and amounts would have been obvious to one of ordinary skill in the art. As to the broad claims, note that Mei et al. '252 may be the epitome of obviousness, anticipation. *In re Pearson*, 181 USPQ 641 (CCPA 1974). Also, it is well settled that

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optimizing a result effective variable is well within the expected ability of a person or ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

10. Applicants urge that the standards of *In re Steele* should have not been applied. This is not backed by sufficient evidence. In fact, this examiner has personally had a prior art rejection reversed by the honorable Board of Patent Appeals and Interferences, as to claims that were much better than the instant previous claims. One may merely note that in the original claims, it was not clear whether the invention involved a system or device, a method, or a composition to be examined. Such claims are surely not adequate for examination as to prior art.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163. Examiner Miller may normally be reached Monday-Thursday, from 10 AM to 7 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor Mr. Carone can be reached at (703) 306-4198. The Group fax number is (703) 305-7687.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em
June 15, 2003



EDWARD A. MILLER
PRIMARY EXAMINER